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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,553	11/26/2003	Petrus Gijsbertus Maria Centen	PF020158	9740

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EXAMINER

BEMBEN, RICHARD M

ART UNIT	PAPER NUMBER
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2622

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/723,553	Applicant(s) MARIA CENTEN ET AL.	
	Examiner Richard M. Bemben	Art Unit 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>11/26/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the abstract is plural paragraphs. The abstract is required to be a single paragraph. Correction is required. See MPEP § 608.01(b).

Claim Objections

2. Claims 1-8 are objected to because of the following informalities: claim 1 requires, "control means to control the *power* of the driving signal depending on the gain". It is notoriously well known in the field of electronics that electrical power is equal to the voltage multiplied by the current:

$$P = vi$$

However, the specification and drawings disclose varying the amplitude of the voltage supplied to the image sensor depending on the gain (p. 4, l. 9 and Figs. 2a-2c).

Appropriate correction is required.

3. Claims 1 and 9 are objected to because of the following informalities: "characterised" should be "characterized". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura et al., US 4,860,095 (referred to as “Kimura”).**

6. **[Claim 1]** Kimura discloses an image pickup device comprising:

an image sensor generating an image signal (c. 21, l. 54; Fig. 31, CCD 113);

driving means generating a driving signal for the image sensor (c. 21, ll. 48-58; c. Fig. 31, timing pulse generator 186);

an amplifier for amplifying the image signal with a given gain (c. 22, ll. 11-12; Fig. 31, gain control amplifier 210);

adjusting means to set the gain (c. 22, ll. 6-13);

characterised (characterized) by control means (c. 21, ll.25-34; c. 21, ll. 48-53; Figs. 27 & 31, level correctors 185, 187, 188) to control the power of the driving signal depending on the gain.

Refer to c. 22, ll. 6-13. Both the driving voltage and the gain are adjusted in accordance with the cable length. Therefore, if the gain is adjusted, the driving signal is adjusted. Hence, the driving signal is dependent on the gain and vice versa. Also refer to the discussion of gain control amplifier 210 in c. 22, l. 59 – c. 23, l. 9.

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7. **[Claim 2]** Refer to the rejection of claim 1 and Kimura further discloses that a pulse pattern generator (*Fig. 27 & 31, video processor unit 114*) includes the driving means.
8. **[Claim 3]** Refer to the rejection of claim 2 and Kimura further discloses that the pulse pattern generator (*Figs. 27 & 31, Video Processor Unit 114*) includes the control means.
9. **[Claim 4]** Refer to the rejection of claim 1 and Kimura further discloses that a controller comprises the control means (*level correctors are at least controllers; Figs. 27 & 31, level correctors 185, 187, 188*).
10. **[Claim 5]** Refer to the rejection of claim 1 and Kimura further discloses that the driving signal is a storage clock signal or an image clock signal (*c. 21, l. 54 – c. 22, ll. 13*).
11. **[Claim 6]** Refer to the rejection of claim 1 and Kimura further discloses that the image sensor is a CCD imager (*c. 21, l. 54; Fig. 31, CCD 113*).
12. **[Claim 8]** Refer to the rejection of claim 1 and Kimura further discloses that the control means sets the height of pulses of the driving signal (*c. 22, ll. 6-13*).
13. **[Claim 9]** Kimura discloses an image pickup device comprising:
 - an image sensor generating an image signal (*c. 21, l. 54; Fig. 31, CCD 113*);
 - driving means generating a signal with pulses for driving the image sensor (*c. 21, ll. 48-58; c. Fig. 31, timing pulse generator 186*);
 - an amplifier for amplifying the image signal with a given gain (*c. 22, ll. 11-12; Fig. 31, gain control amplifier 210*);

adjusting means to set the gain (c. 22, ll. 6-13);

characterised (characterized) by control means (c. 21, ll.25-34; c. 21, ll. 48-53; Figs. 27 & 31, level correctors 185, 187, 188) to set the pulse height depending on the gain.

Refer to c. 22, ll. 6-13. Both the driving voltage and the gain are adjusted in accordance with the cable length. Therefore, if the gain is adjusted, the driving signal is adjusted. Hence, the driving signal is dependent on the gain and vice versa. Also refer to the discussion of gain control amplifier 210 in c. 22, l. 59 – c. 23, l. 9.

14. **[Claim 10]** Refer to the rejection of claim 1 and Kimura further discloses that the driving signal is a storage clock signal or an image clock signal (c. 21, l. 54 – c. 22, ll. 13).

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Topper, US 4,683,498.

17. **[Claim 7]** Kimura discloses an image pickup device comprising an image sensor and driving means generating a driving signal for the image sensor (refer to the rejection of claim 1 above). However, Kimura does not disclose that the image pickup device comprises two further image sensors.

18. Topper discloses an image pickup device comprising three image sensors (*c. 3, ll. 13-28; Fig. 1, solid-state imagers 14, 16, and 18*) and driving means generating a driving signal for the image sensors (*c. 3, ll. 13-28; Fig. 1, sync generator 20, master clock 22, and imager clock generator 24*).

19. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an image pickup device comprising three image sensors as disclosed by Topper in the image pickup device disclosed by Kimura in order to capture high quality color images.

Conclusion

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

21. **Kinoshita, US 4,635,126**, discloses an image pick-up system in which the accumulation time of accumulation type image pick-up elements and the gain of an amplifier for amplifying the output of the pick-up elements are controlled through an accumulation time and gain control device on the basis of the brightness of the image light received by the pick-up elements.

22. **Oda, US 5,528,291**, discloses a CCD image sensor characterized by: in a monitor mode, the saturated electric charge amount of a plurality of first, second, third, and fourth types of photoelectric conversion elements disposed in matrix form on a semiconductor substrate is set to one half a saturated electric charge amount during a still mode.

23. **Shibuya et al., US 5,986,705**, discloses an exposure adjustment apparatus determines, based on the level of a signal of an object converted by a solid state image sensing device, whether the exposure time or the gain is to be decreased, increased or maintained, and controls the gain of an amplifier and the drive pulse to be generated by a drive pulse generator.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard M. Bemben whose telephone number is (571) 272-7634. The examiner can normally be reached on 8:30AM-5:00PM.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571) 272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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